

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Application Review**

**Issue Date:** TBD

**Region:** Fayetteville Regional Office  
**County:** Anson  
**NC Facility ID:** 0400056  
**Inspector's Name:** Gregory Reeves  
**Date of Last Inspection:** 06/21/2018  
**Compliance Code:** 3 / Compliance - inspection

<p style="text-align: center;"><b>Facility Data</b></p> <p><b>Applicant (Facility's Name):</b> Piedmont Natural Gas - Wadesboro Compressor Station</p> <p><b>Facility Address:</b> Piedmont Natural Gas - Wadesboro Compressor Station 259 Pleasant Grove Church Road Wadesboro, NC 28170</p> <p><b>SIC:</b> 4922 / Natural Gas Transmission  <b>NAICS:</b> 48621 / Pipeline Transportation of Natural Gas</p> <p><b>Facility Classification: Before:</b> Title V <b>After:</b> Title V  <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V</p>	<p style="text-align: center;"><b>Permit Applicability (this application only)</b></p> <p><b>SIP:</b> 02D: .0516, .0521, .0524, .1423, .1111 02Q: .0317</p> <p><b>NSPS:</b> JJJJ  <b>NESHAP:</b> ZZZZ  <b>PSD:</b> n/a  <b>PSD Avoidance:</b> n/a  <b>NC Toxics:</b> n/a  <b>112(r):</b> n/a  <b>Other:</b> n/a</p>
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Contact Data			Application Data
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<p><b>Application Number:</b> 0400056.18A  <b>Date Received:</b> 12/03/2018  <b>Application Type:</b> Renewal  <b>Application Schedule:</b> TV-Renewal</p> <p style="text-align: center;"><b>Existing Permit Data</b></p> <p><b>Existing Permit Number:</b> 10097/T01  <b>Existing Permit Issue Date:</b> 09/15/2014  <b>Existing Permit Expiration Date:</b> 08/31/2019</p>
Christopher Friel Lead EHS Professional (336) 682-3122 PNG Winston-Salem OPS Center Winston-Salem, NC 27101	Adam Long Director, Gas Pipeline Operations (704) 731-4130 4720 Piedmont Row Drive Charlotte, NC 28210	Macrae Walters Sr. Environmental Specialist (704) 382-1513 526 South Church Street (EC12J) Charlotte, NC 28202	

**Total Actual emissions in TONS/YEAR:**

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2017	0.0800	12.92	5.09	0.9400	1.11	2.54	0.9302 [Acetaldehyde]
2016	0.0800	18.51	7.24	1.31	1.60	3.71	1.33 [Acetaldehyde]
2015	0.0800	15.22	6.30	1.20	1.43	9.99	7.64 [Formaldehyde]
2014	0.0400	5.19	2.13	0.4800	0.4800	3.35	2.58 [Formaldehyde]
2013	---	1.0000	0.3900	0.1100	0.0800	0.6264	0.4929 [Formaldehyde]

<p><b>Review Engineer:</b> Russell Braswell</p> <p><b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____</p>	<p style="text-align: center;"><b>Comments / Recommendations:</b></p> <p><b>Issue</b> 10097/T02  <b>Permit Issue Date:</b> TBD  <b>Permit Expiration Date:</b> TBD + 5 years</p>
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## 1. Purpose of Application:

Piedmont Natural Gas - Wadesboro Compressor Station ("PNG", "the facility") currently operates a facility in Anson County under Title V Air Quality Permit 10097T01. The existing permit has an expiration date of August 31, 2019. PNG submitted this permit application in order to renew the existing Title V permit. In the permit application, PNG requested the addition of two insignificant sources, but did not suggest any changes to the body of the permit.

Because this application for permit renewal was received at least nine months<sup>1</sup> before the expiration date, the existing permit will remain in effect, regardless of expiration date, until this application is processed.

No P.E. seal or zoning consistency determination was required as part of this application for permit renewal.

## 2. Facility Description:

This facility is a natural gas pipeline compressor station. The facility accepts natural gas from a Trans-Continental distribution pipeline and injects it into the Piedmont pipeline. The facility has four compressors powered by natural gas drawn directly from the pipeline. The permit allows PNG to construct an additional four compressors. Emissions from each compressor are controlled by catalytic oxidizers.

## 3. History/Background:

- March 28, 2011 Permit R00 issued. This was a greenfield permit application. The permit was issued as a State-only permit with a requirement to submit a 1<sup>st</sup>-Time Title V permit application within 12 months of commencing construction.
- September 15, 2014 Permit T01 issued. This was for a 1<sup>st</sup>-Time Title V permit. In addition to satisfying the application submittal requirement in the R00 permit, this action also removed references to 02D .1100 and 02Q .0711 in accordance with Session Law 2012-91.

## 4. Application Chronology:

- December 3, 2018 Application .18A received in Raleigh Central Office.
- January 17, 2019 An initial draft of the permit and associated review documents were sent to DAQ staff (Tom Anderson, Mark Cuilla, Samir Parekh, Greg Reeves) and PNG staff (Adam Long, Macrae Walters). For a summary of comments received, see Attachment 2.
- TBD The Public / EPA notice periods began.
- TBD The Public / EPA notice periods ended.
- TBD Permit issued.

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<sup>1</sup> At the time the existing permit was issued, 15A NCAC 02Q .0513(b) required that renewal applications be submitted at least nine months before the expiration date. On April 1, 2018, DAQ lowered this requirement to six months.

## 5. Permit Modifications/Changes and TVEE Discussion:

The renewal application requested the following changes to the permit:

- Added I-1 (blowdown operations) and I-2 (misc. storage tanks).
- Rewrote the permit condition for NSPS Subpart JJJJ. This included reformatting the condition for clarity and splitting the condition into two separate conditions for the emergency and non-emergency engines.
- Removed references in the permit to 15A NCAC 02D .0501 because the facility has no specific requirements under this rule.

The complete list of changes to the permit can be found in Attachment 1.

## 6. Regulatory Overview:

PNG is subject to the following State Implementation Plan (SIP) and Federal regulations, in addition to the requirements in the General Conditions:

- 15A NCAC 02D .0516 "Sulfur Dioxide Emissions from Combustion Sources"
- 15A NCAC 02D .0521 "Control of Visible Emissions"
- 15A NCAC 02D .0524 "New Source Performance Standards" (40 CFR Part 60, Subpart JJJJ)
- 15A NCAC 02D .1423 "Large Internal Combustion Engines"
- 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (40 CFR Part 63, Subpart ZZZZ)
- 15A NCAC 02Q .0317 "Avoidance Conditions" (HAP-Major Source Avoidance)

An extensive review for 15A NCAC 02D .0516 and .0521 is not included in this document because the facility's status with respect to these regulations has not changed. The permit will be updated to reflect the most current stipulations for all applicable regulations.

For a review of permit changes and an explanation of rules included (or not included) in the permit, see Sections 7 and 11. For a discussion of TAP rules (e.g. 02D .1100), see Section 8.

## 7. Rules Review

### a. New Source Performance Standards (NSPS; 40 CFR Part 60)

#### 1. *Subpart JJJJ "Stationary Spark Ignition Internal Combustion Engines"*

This rule applies to stationary spark ignition internal combustion engines (SI ICE) based on the size, construction date, and use-case of the engine. All of the compressors at this facility are powered by engines subject to this rule. In addition, the emergency generator is also subject to this rule.

For the emergency-use engine, the facility must install a non-resettable hour meter, operate only during emergencies or maintenance, and operate the engine according to the manufacturer's specifications.

For the compressor engines, the facility must ensure the engines meet the emission standards in Table 1 to the subpart. Because the existing engines are not certified per §60.4243(b), the facility

must perform periodic emission testing of the engines and control devices. In addition to testing, the facility must operate the engines according to the manufacturer's specifications.

Records of operations and maintenance must be kept and reported regularly.

Based on the most recent inspection report, PNG appears to be in compliance with this rule. Continued compliance will be determined with subsequent inspections and reports.

The permit condition for this rule has been updated for clarity. The facility's requirements under this rule have not changed.

For the engines not yet installed (i.e. COMP05 through COMP08), compliance will be determined after they are installed.

2. *Subpart OOOO (Natural gas transmission, construction commenced after August 23, 2011), and Subpart OOOOa (Natural gas facilities, construction commenced after September 18, 2015)*

These rules apply to on-shore facilities involved in the production and transport of natural gas. Individual compressors located at pipeline compressor stations are subject to these rules. Other activities (e.g. emergency-use generators) located at the compressor station are not subject to the rule.

The facility currently consists of four compressors, with the option to build four additional compressors. Construction commenced on the existing compressors on May 24, 2011<sup>2</sup>. Therefore, the four existing compressors are not subject to either of these rules.

If PNG elects to construct the remaining four compressors, they will likely be subject to NSPS Subpart OOOOa. Compliance will be determined before COMP05 through COMP08 are installed.

b. Maximum/Generally Available Control Technology (MACT/GACT; 40 CFR Part 63)

1. *Avoidance of Major Source Status*

This facility has potential emissions of HAP greater than the major source threshold. In order to avoid being considered a major source of HAP, the facility has accepted a Federally-enforceable limit on HAP emissions equal to the major source thresholds.

In practice, the facility demonstrates compliance with these HAP limits by demonstrating compliance with NSPS Subpart JJJJ. That rule requires the use of catalytic oxidizers on each of the compressors. The use of oxidizers reduces potential HAP emissions to less than the major source threshold, so no specific monitoring, recordkeeping, or reporting is required to demonstrate compliance with this limit.

Because this facility is avoiding major source status, MACT rules that apply only to major sources (e.g. Subpart HHH) do not apply to this facility by default.

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2 See the August 5, 2011 letter from Steven Vozzo (Fayetteville Regional Supervisor, DAQ) to Rodney Myers (Managing Director of the facility at the time)

2. *Subpart ZZZZ "Stationary Reciprocating Internal Combustion Engines"*

This rule applies to all stationary internal combustion engines. Per §63.6590(c), engines that are also subject to an NSPS demonstrate compliance with this rule by demonstrating compliance with the NSPS.

Each engine at this facility is subject to NSPS Subpart JJJJ (see Section 7.a.1). Therefore, this facility has no additional requirements under the MACT.

c. Prevention of Significant Deterioration (PSD)

This facility is not one of the 28 listed source categories in 40 CFR 51.166(b)(1). Therefore, the facility's major source threshold for PSD is 250 tons per year for any pollutant.

According to the R00 permit review<sup>3</sup>, this facility does not have potential emissions of any pollutant greater than the major source threshold. The calculations were based on the following manufacturer's guarantees:

Pollutant	Emission factor (g/hp-hr)	Combined Potential Emissions (ton/yr)
NO <sub>x</sub>	5.00E-01	183.68
VOC	8.70E-01	35.95
CO	2.14E-00	23.45

Because this facility does not have potential emissions greater than the major source thresholds, no reference to PSD (avoidance or otherwise) is included in the permit.

d. Risk Management Program and Section 112(r) of the Federal Clean Air Act

This facility does not store any materials listed in 40 CFR 68.130 above their respective thresholds. Therefore, this facility does not need to submit a Risk Management Plan and has no increased requirements under Section 112(r) of the Clean Air Act.

e. Reasonably Available Control Technology (RACT)

The facility is not located in an area of ozone nonattainment, so rules that apply to such areas do not apply to this facility.

The compressors are subject to 15A NCAC 02D .1423 "Large Internal Combustion Engines." While the facility's requirements under the rule have not changed, the condition in the permit has been updated for clarity.

f. Compliance Assurance Monitoring (CAM; 40 CFR Part 64)

CAM applies to an emission source and associated control device if the following criteria are met:

1. The source being controlled is subject to a non-exempt emission standard (defined by 02D .0614(b)(1)),

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3 a.k.a. "Statement of Basis". Permit R00 was issued on March 28, 2011.

2. The control device is being used to comply with the emission standard, and
3. The source being controlled has potential emissions of the pollutant subject to the emission standard greater than major source thresholds.

This facility uses catalytic oxidizers to control HAP and CO emissions from the compressors. The table below examines each rule for CAM applicability.

Rule	Pollutant	Triggers CAM?	Notes
02D .0516	SO <sub>2</sub>	No	The facility does not use a control device to comply with this limit.
02D .0521	VE	No	This pollutant does not have a major source threshold.
02D .1423	NO <sub>x</sub>	No	The facility does not use a control device to comply with this limit.
NSPS, Subpart JJJJ	NO <sub>x</sub> , CO, VOC	No	Per 02D .0614(b)(1)(A), these Federal rules were proposed after 1990 and therefore do not trigger CAM applicability.
GACTION, Subpart ZZZZ	HAP	No	
02Q .0317, Major Source avoidance	HAP	No	Per 02D .0614(b)(1)(E), emission caps incorporated under an 02Q rule do not trigger CAM applicability.

No emission limit triggers CAM requirements, and therefore CAM does not apply to this facility.

### 8. Toxic Air Pollutants (TAPs)

This facility performed air dispersion modeling for the R00 permit application. The facility modeled emissions of acrolein, butadiene, benzene, and formaldehyde. The results of the modeling demonstrated that no monitoring, recordkeeping, or reporting was required to demonstrate compliance with TAP emissions.

In accordance with NC Session Law 2012-91, TAP limits were removed from the permit with the T01<sup>4</sup> permit revision.

This renewal does not trigger a new TAP emission review.

### 9. Facility Emissions Review

For a historical review of actual emissions from the facility, see the summary table on the first page of this review.

The two insignificant activities being added to the permit are not expected to significantly impact actual emissions from the facility. It should be noted that both sources (blowdown operations and the miscellaneous storage tanks) are already in operation at the facility and are being included in the permit for clarity.

<sup>4</sup> Permit T01 was issued September 15, 2014

Emissions from the storage tanks are expected to be negligible. Emissions from the blowdown operations are expected to be approximately 0.02 tons of VOC per blowdown event. The renewal application notes that there were no blowdown events in CY2018.

## 10. Compliance Status

- Notices of Violation/Recommendation for Enforcement since the previous renewal

None.

- Inspection status

The facility was most recently inspected by June 21, 2018 by Greg Reeves. PNG appeared to be in compliance with the Title V permit at the time of that inspection.

## 11. Other Regulatory Concerns

As part of the R00 permit application, PNG performed air dispersion modeling for NO<sub>2</sub>. The modeling demonstrated that, while exceedances of the NAAQS were identified, "...PNG demonstrated their impacts at the locations and times of the NAAQS exceedances did not exceed the 1-hour NO<sub>2</sub> Significant Impact Level and, as such, PNG did not significantly contribute to the violations."<sup>5</sup> The existing permit contained references to the NAAQS and 40 CFR 53.11, but did not include any specific conditions or requirements because PNG was not expected to contribute to violations of the NAAQS. Given that PNG has no requirements under §53.11, there is no need to reference it in the permit.

## 12. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above. South Carolina is an affected state, and Mecklenburg County is an affected local program.

The Public Notice and EPA Review periods began on TBD.

## 13. Recommendations

Issue Permit 10097T02.

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5 See memo from Jerry Freeman (Meteorologist, DAQ), issued December 2, 2010.

Attachment 1 to review of application 0400056.18A  
Piedmont Natural Gas - Wadesboro Compressor Station

**Change List**

Page No.*	Section*	Description of Changes
n/a	Throughout	<ul style="list-style-type: none"> <li>• Updated dates/permit numbers.</li> <li>• Fixed formatting.</li> <li>• Updated mailing address and Authorized Official.</li> <li>• Removed references to 02D .0501(c) because the Permittee has no specific requirements under this rule.</li> </ul>
n/a	List of Insignificant Activities	<ul style="list-style-type: none"> <li>• Added I-1 and I-2 at applicant's request.</li> </ul>
3	1.	<ul style="list-style-type: none"> <li>• Noted that EG01 is subject to NSPS Subpart JJJJ.</li> </ul>
5	2.1 A.3	<ul style="list-style-type: none"> <li>• Added updated condition for NSPS Subpart JJJJ (moved from former Section 2.2 B.2.</li> </ul>
10	2.1 B.3	<ul style="list-style-type: none"> <li>• Added updated condition for NSPS Subpart JJJJ (moved from former Section 2.2 B.2.</li> </ul>
n/a	2.2 A.2 (former)	<ul style="list-style-type: none"> <li>• Removed this condition for NSPS Subpart JJJJ because it has been moved to Section 2.1 A.3 and B.3.</li> </ul>
16	3.	<ul style="list-style-type: none"> <li>• Updated General Conditions to v5.3.</li> </ul>

\* This refers to the current permit unless otherwise stated.

Attachment 2 to review of application 0400056.18A  
Piedmont Natural Gas - Wadesboro Compressor Station

**Comments Received on Initial Draft of 10097T01**

- Greg Reeves, by email on January 17, 2019

The email pointed out minor typos throughout the permit and review.

*Response: Fixed.*

- Mark Cuilla, by email on January 31, 2019

The email pointed out minor typos throughout the permit and review.

*Response: Fixed.*

- Macrae Walters and Cynthia Winston, by email on February 11, 2019

1. The email pointed out minor typos throughout the permit and review.

*Response: Fixed.*

2. Should the permit contain a permit shield for NSPS Subpart OOOOa?

*Response: The permit can include a shield for this rule if PNG specifically requests it. After being informed of this, the facility has not specifically requested this, and therefore I have not included it in the permit.*

*Based on the above request, I have now included a discussion of NSPS Subparts OOOO and OOOOa in this permit review.*